

Exhibit 1

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WHAT IS CLAIMED IS:

1. A method for producing a mammalian peptide which comprises:
growing plant cells containing an integrated sequence comprising,
a first expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plant cells, (2) a structural gene coding for said mammalian peptide, and (3) a termination region, whereby said structural gene is expressed to produce said mammalian peptide; and isolating said mammalian peptide substantially free of plant cell components.
2. A method according to Claim 1, wherein said integrated sequence ~~includes~~ ^{comprises} a second expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plants, (2) a structural gene coding for a peptide which allows for selection of plant cells expressing said peptide, and (3) a termination region.
3. A method according to Claim 2, wherein said transcriptional and translational initiation region ~~is derived at least in part from a~~ ^{of said first expression cassette} transcriptional and translational initiation region of a Ti- or Ri-plasmid.
4. A method according to Claim 3, wherein said transcriptional and translational initiation region ~~regulates expression of mannopine synthase, octopine synthase or nopaline synthase.~~ ^{of said first expression cassette}
5. A method according to Claim 1, wherein said transcriptional and translational initiation

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region of said first expression cassette regulates
expression of a plant gene.

5 6. A method according to Claim 1, wherein
said integrated sequence ~~includes~~ ^{comprises} a boundary region
from T-DNA.

10 7. A method for producing an interferon
which comprises:
growing plant cells containing an integrated
sequence comprising
a first expression cassette having in the
direction of transcription (1) a transcriptional and
translational initiation region functional in said
15 plant cells and derived from a region which regulates
expression of a T-DNA gene, (2) a structural gene
coding for an interferon, and (3) a termination region
functional in said plant cells,
whereby said structural gene is expressed to
20 produce said interferon, and
isolating said interferon substantially free
of plant cell components.

25 8. A method according to Claim 7, wherein
said integrated sequence ~~includes~~ ^{comprises} a second expression
cassette having in the direction of transcription (1) a
transcriptional and translational initiation region
functional in said plant cells, (2) a structural gene
coding for an enzyme which imparts antibiotic
30 resistance, and (3) a T-DNA boundary.

32 9. A method according to Claim 8, wherein
said first expression cassette transcriptional and
translational initiation region regulates expression of
35 the mannopine synthase gene of T-DNA.

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10. An expression cassette comprising a DNA sequence having in the direction of transcription a transcriptional and translational initiation region functional in plant cells, a structural gene coding for a mammalian peptide, and a termination region functional in plant cells.

11. An expression cassette according to Claim 10 including joined to said DNA sequence a second expression cassette comprising a second transcriptional and translational initiation region functional in plant cells, a structural gene coding for a peptide providing a phenotypic property capable of selection in plant cells, and a termination region functional in plant cells.

12. An expression cassette according to Claim 11, ~~including~~ ^{comprising} a T-DNA boundary.

13. A DNA construct comprising a first expression cassette having in the direction of transcription a transcriptional and translational initiation region regulating the expression of mannopine synthase of T-DNA, a structural gene coding for γ -interferon and a termination region functional in plant cells, a second expression cassette comprising in the direction of transcription a transcriptional and translational initiation region regulatory the expression of octopine synthase of T-DNA, a structural gene coding for an enzyme imparting antibiotic resistance to plant cells, and a termination region functional in plant cells, and a T-DNA boundary.

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ATTORNEY DOCKET NO.

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

MOLECULAR FARMING

the specification of which ☒ is attached hereto or ☐ was filed on _____ as Application Serial No. _____ and was amended on _____ (if applicable).

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, 81.56(a). I claim foreign priority benefits under Title 35, United States Code, 5119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

COUNTRY	APPLICATION NUMBER	DATE OF FILING	PRIORITY CLAIMED UNDER 35 U.S.C. 119
			Yes _____ No _____
			Yes _____ No _____

I claim the benefit under Title 35, United States Code, 5120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, 5112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, 81.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NO.	DATE OF FILING	STATUS
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) who are partners and associates in the firm of Townsend and Townsend to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Bertram I. Rowland, Reg. No. 20,015 ³/₁
William M. Smith, Reg. No. 30,223
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201	FULL NAME OF INVENTOR	Last Name GOODMAN 401	First Name Robert	Middle Name or Initial M.
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I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor 201	Signature of Inventor 202	Signature of Inventor 203
Date	Date	Date

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DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

MOLECULAR FARMING

the specification of which ☒ is attached hereto or ☐ was filed on _____ as Application Serial No. _____ and was amended on _____ (if applicable).

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

COUNTRY	APPLICATION NUMBER	DATE OF FILING	PRIORITY CLAIMED UNDER 35 U.S.C. 119
			Yes _____ No _____
			Yes _____ No _____

I claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NO.	DATE OF FILING	STATUS
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

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203	FULL NAME OF INVENTOR	Last Name		First Name	
	RESIDENCE	City		State or Foreign Country	
	CITIZENSHIP			Country of Citizenship	
	POST OFFICE ADDRESS	Post Office Address		City	

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor 202	Signature of Inventor 207	Signature of Inventor 203
Date	Date	Date